

USSR

KHRENOV, K.K., et al, Avtomaticheskaya Svarka, No 5, May 70, pp 51-53

the plastic flow of metals needed for obtaining airtight joints. Welding with unilateral deformation provides a better external appearance of the instruments, and increases the weld width and corrosion resistance of the joint.

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USSR

UDC 621.81.539.431

POCHTENNYI, Ye. K. and BABITSKIY, M. S., Candidates of Technical Sciences,
and GURSKIY, V. A., Engineer

"Statistical Estimate of Cyclical Strength at Stress Above the Yield Point"

Moscow, Vestnik Mashinostroyeniya, No 7, June 1972, pp 17-20

Abstract: Loads acting upon machine parts under operating conditions bring about stress in the part material in one of the following ranges: a) prior to the cyclical yield point, the stresses fail to bring about even local fatigue damage of the parts; b) stress action within the range between the cyclical yield point and the endurance limit brings about local fatigue damage, but does not cause destruction of the parts; c) with stress action within the range between the endurance limit and the breaking point, damage of the parts is completed by destruction.

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USSR

UDC 621.357.1.035.2:669.781(083.8)

GUTMAN, M. B., KAUFMAN, V. G., GURSKIY, V. F., GORODINSKIY, M. S.,
SHAKHES, YU. A., KALOSHIN, YU. G., RABIN'KIY, B. YA., and MEZHUYEVA, L. S.

"Apparatus for Electrolytic Boronization"

USSR Author's Certificate kl. [expansion unknown] C 23 c 9/00 No 337446,
Filed 23 Jan 70, Published 31 May 72 (from Referativnyy Zhurnal -- Khimiya,
No 7, 1973, Abstract No 7L431P)

Translation: An apparatus is patented for the electrolytic boronization, composed of a nonmetallic crucible inside of which is located a partition and electrodes. It is distinctive in that in order to increase efficiency the electrodes are arranged in a circular space formed by the cylindrically coaxial arrangement of the crucible and partition filled with the molten salt.

1/1

USSR

UDC: 519.21

GURSKIY, Ye. I.

"Probability Theory With Elements of Mathematical Statistics. Textbook for Students of Higher Technical Academies"

Teoriya veroyatnostey s elementami matematicheskoy statistiki. Uchebn. posobiye dlya stud. vyssh. tekhn. uchebn. zavedeniy (cf. English above), Vyssh. shkola, 1971, 328 pp, ill. 59 k. (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V238 K)

Translation: The textbook contains a course in probability theory as well as elements of the theory of random functions and mathematical statistics. In addition to the theoretical material, the book contains a large number of examples. Besides this, self-test questions and problems are given at the end of each chapter. The book is written for students of higher technical academies. From the foreword.

1/1

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CONDITION OF THE CARDIOVASCULAR SYSTEM AND ITS EFFECT ON
HEMODYNAMICS IN GLAUCOMA -U-
AUTHOR--GURTOVAYA, YE.YE.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 26-29

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CARDIOVASCULAR SYSTEM, EYE DISEASE, HYPERTENSION,
HEMODYNAMICS, ATHEROSCLEROSIS, BLOOD VOLUME, BLOOD VESSEL

CENTREL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0103

STEP NO--UR/0357/70/000/003/0026/0029

CIRC ACCESSION NO--AP0129362

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NG--AP0129362

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INTERRELATIONS BETWEEN THE STATE OF THE CARDIOVASCULAR SYSTEM AND REGIONAL HEMODYNAMICS OF THE EYE WERE STUDIED IN 160 (221 EYES) GLAUCOMATOUS PATIENTS. OF THIS NUMBER 107 HAD GLAUCOMA SIMPLEX, 43, CONGESTIVE (NARROW ANGLE) AND 10, JUVENIL GLAUCOMA. HYPERTENSIVE DISEASE OF THE 11 STAGE WAS DIAGNOSED IN 51, ARTERIAL HYPOTENSION, IN 5, WHILE 75 PATIENTS DEMONSTRATED ATHEROSCLEROTIC LESIONS OF CARDIAC AND CEREBRAL VESSELS OF VARYING SEVERITY. DATA ON REGIONAL OCULAR HEMODYNAMICS WERE OBTAINED ON EXAMINATION OF THE PATIENTS BY USING V. K. ZHDANOV'S OPHTHALMOPLETHSMOGRAPH AND A NEW OPHTHALMETHYSMOGRAPH DESIGNED BY THE ALL UNION RESEARCH INSTITUTE OF THE MEDICAL INDUSTRY. MARKED ATHEROSCLEROTIC LESIONS OF THE GREATER CIRCULATION VESSELS AFFECT ADVERSELY THE REGIONAL HEMODYNAMICS OF A GLAUCOMATOUS EYE, REDUCING THE PULSE BLOOD VOLUME IN THE EYE DOWN TO 6.4 PLUS OR MINUS 0.5 MM PRIME3. SUBJECTS WITH JUVENILE GLAUCOMA, BUT WITHOUT PATHOLOGY ON THE LEVEL OF THE CARDIOVASCULAR SYSTEM, SHOWED A DECREASE OF THE TOTAL PULSE VOLUME AND A CHANGE IN THE AMPLITUDE AND SHAPE OF THE PULSE WAVE. FACILITY: MOSKOVSKIY NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT GLAZNYKH BOLEZNEY IM. GEL'MGOL'TSA.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--USE OF LUBRICANTS DURING THE CONTINUOUS PRODUCTION OF HOLLOW PANELS
-U-
AUTHOR--(03)-GURTOVNIK, I.G., ANTIPOV, V.V., KISELEV, V.N.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (6), 74
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--HONEYCOMB STRUCTURE, GLASS CLOTH, PHENOL FORMALDEHYDE RESIN,
MOLDING LUBRICANT, GRAPHITE, OLEIC ACID, INDUSTRIAL PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0705

STEP NO--UR/0191/70/000/00-10070/0074

CIRC ACCESSION NO--AP0136144

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136144

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRODUCTION OF HONEYCOMB TYPE
PANELS OF GLASS CLOTH IMPREGNATED WITH PHNH SUB2 PHENOL 4CHO RESIN
REQUIRES SPECIALLY COATED STAMPING DIES OR THE INTERPOSITION OF
NONADHESIVE FILMS (CELLOPHANE OR POLYAMIDE). A 2COMPONENT LUBRICANT
CONTG. OLEIC ACID AND GRAPHITE WAS FOUND ADEQUATE AND MORE ECONOMICAL
THAN THESE FILMS.

UNCLASSIFIED

USSR

UDC 616.988.6-097

GURISEVICH, V. E., MAZURENKO, N. P., ZHAROVA, Ye. I., PROBATOVA, N. A., and STEPANOVA, G. N., Laboratory of the Virology of Leucoses, Laboratory of Systemic Blood Diseases, and Division of Pathological Anatomy of Human Tumors, Institute of Experimental and Clinical Oncology, Academy of Sciences USSR, Moscow

"Specific Surface Leukosis Antigen and Cellular Malignancy in Mice of the CC57BR Line Infected with Mazurenko Virus"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 3, 1970, pp 100-104

Abstract: Mice of the CC57BR line were injected with Mazurenko virus. The time needed for appearance of specific antigen in cells of various organs and tissues was compared with the appearance of malignant cell transformation, detected morphologically and by transplantation. Using the immunofluorescence method, specific surface antigen was detected before the histological diagnosis of leukemia was made and before the cells became transplantable. This antigen was found in spleen, thymus, lymph nodes, and bone marrow at about the same time. A direct relationship was detected between the quantity of fluorescent cells and the degree of morphological change.

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Acc. Nr: APC051972

Ref. Code: UR0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditsiny, 1970, Vol 69, Nr 3, pp 100-104

SPECIFIC SURFACE LEUKEMIC ANTIGEN AND CELLULAR MALIGNIZATION
IN MICE OF THE CC57BR LINE INFECTED WITH MAZURENKO'S VIRUS

V. E. Gurtsevich, N. P. Mazurenko, Ye. I. Zharova, N. A. Probatova, G. N. Stepanova

Institute of Experimental and Clinical Oncology of the Academy
of Medical Sciences, of the USSR, Moscow

A specific surface antigen, detected by means of immunofluorescence in mice of the CC57BR line infected with Mazurenko's virus, was revealed before establishing the cytohistological diagnosis of leukemia and before the cells acquired the capacity to transplantation. The referred to antigen was determined in infected mice approximately at the same periods in the spleen, thymus, lymph nodes and bone marrow, this may be interpreted in favor of the autochthonous origin of the leukemia studied. There was established a direct relation between increase of the quantity of fluorescent cells in the organ investigated and intensification therein of morphological changes accompanied by the development of leukemia.

REEL/FRA
19820459

USSR

UDC: 681.3.519.2

OTKHMEZURI, G. L., GOGIBERIDZE, A. Sh., GURULI, V. V., ZUBIASHVILI, Sh. M.,
SIRADZE, Sh. M., SIGUA, V. F., DATUASHVILI, A. N., Tbilisi Affiliate of
the All-Union Scientific Research Institute of Metrology imeni D. I.
Mendeleyev

"A Device for Determining the Mathematical Expectation of Random Processes"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 48, Dec 73, Author's Certificate No 409244, Division G, filed 4 May 72,
published 30 Nov 73, pp 120-121

Translation: This Author's Certificate introduces a device for determining
the mathematical expectation of random processes. The device contains a
pulse generator, source of input information, an amplifier, diodes, a rec-
tifier, and a shifter. The pulse generator is connected to a modulator
directly and to the first input of an interrupter through an accumulator.
The source of input information is connected to the modulator through a
comparison circuit. The shifter is connected through a multiplier to the
output of the device. As a distinguishing feature of the patent, the working
precision of the device is improved by adding magnetic accumulator elements.

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OTKHMEZURI, G. L. et al., USSR Author's Certificate No 409244

The inputs of these accumulator elements are connected to the corresponding diodes, and the diode inputs are connected to the output of the interruptor. The output of the rectifier is connected to the shifter and to the comparison circuit. The modulator output is connected through the amplifier to a second input of the interruptor.

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Acc. Nr: **RA0108725** **GURUSHKIN V. V.** Ref. Code:
Abstracting Service: UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent. 3/76

242991 MACHINE FOR FIXING SEPARATING MATERIAL TO ELECTRODES of chemical cells has each welding unit in the machine fitted with an electrical cutter at the sides of which are spring-loaded catches which press the separating material (in tape form) to the edges of a longitudinal slot -in a supporting plate. The feed-in mechanism for the separation material takes the form of a shaped template for tensioning the welded butt joint of two strips of separation material. In slots of this template operate, with reciprocating motion, the shaped clamps of the transporter which transfers the electrodes and separation material to the welding unit. 15.3.68. as 1225550/24-7, RUVINSKII, L.G. KREININ, M.N. POLYANIN, V. Ya. et al (25.9.69) Bul. 16/5.5.69. Class 21b, Int. Cl. B 01m.)

AUTHORS: Ruvinskiy, L. G.; Kreynin, M. N.; Polyanin, V. Ya.;
Adamyanyan, R. G.; Manukhin, S. V.; Gurushkin, V. V.

REEL/FRAME

13900504

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USSR

UDC 621.357.12:661.418(088.8)

EBERIL', V. I., YELINA, L. M., SHKRED, V. V., TSEYTLIN, R. I., YURKOV, L. I.,
GURVANOV, L. S., KORYAGIN, V. I., PANCHENKO, M. B., and SHANTALIN, A. M.

"Process of the Decomposition of Active Chlorine in Solution"

USSR Authors' Certificate No 335211, filed 20 Jun 60, published 15 May 72
(from Referativnyy Zhurnal -- Khimiya, No 8, (II), 1973, Abstract No 8L254P)

Translation: A process is patented for the dissociation of active chlorine in solutions by means of heating, which is distinguished in that, in order to increase the velocity of dissociation, a process occurs in order to maintain a stable pH value for the solution equal to 5.5 to 6.5. It is proposed to carry out the process by bubbling gases which have been pre-heated and humidified to 60-100% (relative to the temperature of the solution). The value of the pH of the solution during the process stays in the region 5.5 to 6.5 by the addition of alkaline or alkali salts to the solution. The temperature of the solution is confined to the region 60-100°C. The process is carried out either as a batch or as a continuous system, for example, for the flow of the pre-heated solution across a step-wise capacity pattern. The solution is made alkaline at the beginning of the process; that is, the most rapid reduction in the pH of the solution occurs during the first stage of the process.

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USSR

EBERIL', V. I., et al., USSR Authors' Certificate No 335211, filed 20 Jun 60,
published 15 May 72

cess when velocity of dissociation of the active chlorine is highest. From
50-100% of the alkali reagents supplied in the solution are introduced during
the first 60 minutes of the process.

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USSR

UDC 577.23

GURVICH, A. A., YEREMEYEV, V. F., KARABCHIYEVSKIY, YU. A., Institute of
~~Normal~~ and Pathological Physiology, Academy of Medical Sciences USSR, Moscow

"Recording Mitogenetic Radiation of Animal Hearts in Vive Tests Using a
Photomultiplier"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 4, Dec 70, pp 972-975

Abstract: Under narcosis and with the chest wall open, the heart of cold or warm-blooded animals emits mitogenetic radiation with sufficient intensity to be picked up by a FEU 18-A photomultiplier. It is necessary to collect the radiation on the surface of the photocathode by means of an optical device. The intensity of heart radiation is of the order of 1,000 photons/cm²·sec. The intensity of mitogenetic radiation depends on the physiological state of the organ. Progressive cooling of the heart, which occurs when the chest wall is open and the lowered metabolic level lowers the intensity of mitogenetic radiation. Along with it a weak visible radiation may appear as well.

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USSR

UDC 661.143:546.41'78

KRONRAYZ, V. G., MERZLYAKOV, A. T., KAPLENOV, I. G., GURVICH, A. M., and
MIKHALEV, A. A.

Sb. nauch. tr. VNI lyuminoforov i asobo chist. vechshestv (Collection of
Scientific Works From the All-Union Scientific Research Institute of
Lumophors and Principles for Purifying These Compounds), Vyp 7, 1972, pp 72-
74 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L162
by N. Sh.)

Translation: A preliminary study of the photostimulated luminescence allowed
the establishment of the spectral characteristics of a series of basic capture
centers in CaWO_4 and explained the relationship between the excited absorp-
tion bands and peaks of thermal-stimulated luminescence. This permitted the
expectation that further study of the photostimulated luminescence in complexes
by other methods would give useful information on the nature of the capture
centers, the mechanism of the recombination processes, and the role of
these factors in the luminescence of this interesting and industrially
important class of luminescent compounds of the type CaWO_4 .

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USSR

UDC 661.143

GURVICH, A. M., MIKHALEV, A. A., TOMBAK, M. I.

"Effect of the Calcining Temperature of the Charge on the Luminescence of Calcium Tungstenate"

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collection of Scientific Works of the All-Union Scientific Research Institute of Lumino-phors and Materials of Extreme Purity), 1972, vyp. 7, pp 18-26 (from RZh-Khimiya, No 6 (II), 1973, Abstract No 6L161)

Translation: A sharp difference was discovered in the dependence of the photoluminescence and x-ray luminescence of calcium tungstenate on the calcining temperature of the charge. It is explained by the presence during x-ray excitation of an energy migration stage with respect to the crystal. For this reason, at temperatures $<400^{\circ}$ the intensity of the x-ray luminescence is low as a result of the high concentration of linear and surface defects; the extinguishing of the x-ray luminescence is caused by the introduction of acid complexes of the group V elements, four of which (As, Sb, Ng, Ta) increase the afterglow of the CaWO_4 , and the fifth (P) decreases it. Above 800° the recombination afterglow increases sharply in connection with the accumulation of CaO . The bibliography has 19 entries.

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USSR

UDC 616.8-02:616.831-005.98

GURVICH, A. M.

"Hypoxic Cerebral Edema: Its Role in the Development of Acute Posthypoxic Disruptions of the Neurological State"

Moscow, Zhurnal Nevropatologii i Psikhatrii, 1971, Vol 71, No 8, pp 1262-1268

Abstract: A review of recent Soviet and Western literature shows that edema of the brain does not always accompany hypoxia, even when severe, and furthermore, hypoxic and posthypoxic disruptions of the neurological condition (including coma) often are caused not by edema but by primary hypoxic damage of neurons. Hypoxic cerebral edema, of course, is a general term encompassing edemas of varying pathogenesis, localization and probably differing functional significance. These postulates should be kept in mind when designing adequate therapeutic methods for treatment of coma, with or without edema.

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Luminescence

USSR

UDC 541.124

GURVICH, A. M., KATOMINA, Z. V., and GAL'PERIN

"Kinetics of the Formation of Sulfide Crystal Phosphors"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 2, Feb 70, pp 360-365

Abstract: In the preparation of luminophores based on ZnS and CdS, annealing of the charge is continued for tens of minutes or even several hours. Determination of the intensity of luminescence of ZnS(Cl), ZnS(Ag), ZnS(Cu), and ZnS.CdS(Ag) in relation to the length of the time of annealing at 800 and 950° in the presence of NaCl and MgCl₂ + NaCl added as fluxes showed that the crystal phosphors formed within 1-2 min, while at 1100° formation of ZnS phosphors was completed in 30-40 sec. In this temperature range, which is optimal for the formation of sulfide phosphors, the effect of the rate of heat transfer was negligible and the limiting factor in the formation of the phosphors was diffusion of the activators rather than recrystallization. Recrystallization leading to an increased grain size reduced the losses of light in excitation of thick layers of a powdered crystal phosphor; it increases the intensity of luminescence induced by X-rays, while that of luminescence induced by ordinary light may 1/2

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GURVICH, A. M., et al., Zhurnal Fizicheskoy Khimii, Vol 44, No 2, Feb 70, pp 360-361

even decrease. In the industrial production of sulfide phosphors under conditions in which temperatures in the optimum range are applied, the length of the time of annealing can be reduced considerably if the phosphor may be fine-grained. At the high temperatures in question, the charge should be added gradually (continually or in small portions) to reduce the length of the time of heating and other measures (e. g., addition of a flux to the charge) taken to prevent oxidation.

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USSR

UDC: 661.143:546.43.0221

GURVICH, A. M., TOMBAK, N. I., MIKHALEV, A. A., NIKIFOROVA, A. P., BIRMAN, T. A.

"Effect of Deposition Conditions on the Dispersity of Sulfides and Tungstates, and on the Properties of Phosphors Made From Them"

Sb. nauch. tr. VNI Iyuminoforov i osobo chist. veshchestv (Collected Scientific Works of the All-Union Scientific Research Institute of Phosphors and Extra Pure Materials), 1971, vyp. 5, pp 133-143 (from RZh-Khimiya, No 7, Apr 72, Abstract No 71177)

Translation: Colloid-chemical processes play an important part in the process of deposition of ZnS and CdS and calcium tungstate. The composition of the deposit is determined both by the purity of the starting materials, calcium tungstate nuclei of the first colloidal particles, and by the presence of foreign particles, leading to formation of impurities. On the basis of the experimental data, the authors obtain a number of important conclusions in the process of deposition, in particular the formation of large (1-10 microns) spherical particles of ZnS with internal and external fraction of the ZnS, solution and deposition in bubbled, the formation of CdS plates up to 5-7 microns in size, in solution.

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GURVICH, A. V., et al, S. zhukh. tr. VNI Luminoforov (Luminophores)
yashchikov, 1971, vol 5, pp 131-133

of high initial activity ($1.2-3.6 \times 10^4$) of the $\text{CaWO}_4 : \text{Mg}^{2+}$ crystals, an increase in the CaWO_4 grain size with a reduction in the concentration of Ca^{2+} to 1% , the absence of a direct relation between the grain diameter and the luminescent composition ratio from them, etc. The concentration of coprecipitated oxygen-containing impurities can be not only increased, the bulk density of the crystals can be increased from $1.4-1.6$ to 2.0 g/cm³ with intense activation of the solution during nine months of solution, and the activity of the crystals can be increased. Bibliography of 10 references.

USSR

UIC: 535.3:501.51

GEL'FER, E. I., JUMIN, A. S., and CHERSHUMBIN, A. M.

"Intensity Distribution in the Focal Plane of a Light Beam Passing Through a Layer of Turbulent Atmosphere"

Gor'kiy, Izvestiya VUZ--Radiofizika, vol. 14, No. 8, 1971, pp 1208-1211

Abstract: This paper is the continuation of an earlier work (E. I. Gel'fer, et al, Izvestiya VUZ--Radiofizika, 13, No. 2, 27, 1970) which described a method for measuring the area of intensity overshoots in the focal plane of a convergent wave passing through a layer of turbulent atmosphere. The present paper gives the results of further study of the intensity distribution in the focal plane. The intensity measurements were conducted for a wave propagated in an atmospheric layer close to the earth's surface over horizontal distances of 180 and 650 meters. The path selected for the light beam was 1.5-2 meters above a uniformly smooth surface in the steppes. Apparatus for making the measurements was, except for slight modifications, the same as that used in the earlier work.

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GEL'FER, E. I., et al., Izvestiya VUZ--Radiofizika, Vol 14, No 8, 1971, pp 1208-1211

Formulas are developed for the logarithmic-normal intensity probability distribution for the effective radius of the beam cross-section, and a curve comparing the experimental results with the formulas shows agreement between the two to be good. The authors are connected with the Gorkiy State University.

2/2

1/3 042 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INVESTIGATION OF THE FIELD OF TERRESTRIAL RADIOTHERMAL RADIATION.
STUDY OF THE FIELD OF TERRESTRIAL RADIOTHERMAL RADIATION -U-
AUTHOR--(04)--BASHARINOV, A.YE., GURVICH, A.S., TUCHKOV, L.T., SHIFRIN, K.S.

COUNTRY OF INFO--USSR

SOURCE--INSTITUTE OF PHYSICS OF THE ATMOSPHERE AND INSTITUTE OF
OCEANOLOGY; MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ATMOSFERY I
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, ATMOSPHERIC SCIENCES

TOPIC TAGS--SUPERHIGH FREQUENCY, EARTH RADIATION, THERMAL RADIATION,
ATMOSPHERIC RADIATION, RADIOMETER, ANTARCTIC GEOLOGY, EMISSIVITY, OCEAN
SURFACE TEMPERATURE, RADIOSONDE, ICE, WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/0362

STEP NO--UR/0362/70/006/004/0366/0380

CIRC ACCESSION NO--AP0114656

UNCLASSIFIED

2/3 042

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0114656

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER GIVES THE RESULTS OF THEORETICAL INVESTIGATIONS OF AIRCRAFT AND SATELLITE MEASUREMENTS OF TERRESTRIAL RADIOTHERMAL RADIATION. THE FOLLOWING SUBJECTS ARE COVERED: SUPERHIGH FREQUENCY RADIATION OF THE EARTH'S SURFACE, SUPERHIGH FREQUENCY RADIATION OF THE ATMOSPHERE, GEOPHYSICAL INTERPRETATION OF THE SPECTRUM OF OUTGOING SUPERHIGH FREQUENCY RADIATION AND CHARACTERISTICS OF SUPERHIGH FREQUENCY RADIOMETRIC APPARATUS. IMPORTANT RESULTS FROM MEASUREMENTS ABOARD "KOSMOS-243" ARE GIVEN. THIS SATELLITE WAS USED IN MEASURING RADIOTHERMAL RADIATION OF THE EARTH AND ITS ATMOSPHERE AT λ 1,2,3,4, EQUALS 8.5, 3.4, 1.35 AND 0.8 CM. THE SATELLITE CARRIED FOUR RADIOMETERS WITH A RESPONSE OF 0.7DEGREESK AT λ SUB1, λ SUB2 AND ABOUT 2DEGREESK AT λ SUB3, λ SUB4. MEASUREMENTS AT 8.5 AND 3.4 CM WERE USED FOR THE MOST PART FOR DETERMINING THE PARAMETERS OF THE UNDERLYING SURFACE. SINCE THE WATER ICE BRIGHTNESS CONTRAST AT THESE WAVELENGTHS IS GREATER THAN 100DEGREESK, IT IS NOT DIFFICULT TO DETECT THE WATER ICE BOUNDARY AND DETERMINE ICE CONTINUITY. A FIGURE IN THE TEXT IS A MAP OF ICE FORMATIONS AROUND THE ANTARCTIC CONTINENT COMPILED FROM INTERPRETATION OF SPACE PHOTOGRAPHS. IT WAS FOUND THAT ICE CAN BE RELIABLY DETECTED FROM MEASUREMENTS IN THE MICRO WAVE RANGE EVEN WHEN CLOUDS ARE PRESENT. THE QUITE UNIFORM EMISSIVITY OF THE ICE FREE OCEAN MAKES IT POSSIBLE TO DETERMINE ITS SURFACE TEMPERATURE. MEASUREMENTS AT 3.5 CM ARE OPTIMUM FOR THIS PURPOSE SINCE THERE THE DEPENDENCE OF BRIGHTNESS TEMPERATURE ON WATER TEMPERATURE IS MOST CLEARLY EXPRESSED.

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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0114656

ABSTRACT/EXTRACT--A FIGURE IN THE TEXT SHOWS A PROFILE OF SURFACE TEMPERATURE OF THE PACIFIC OCEAN CONSTRUCTED FROM MEASUREMENTS AT 8.5 CM; IT RUNS FROM THE BERING SEA TO THE ANTARCTIC OCEAN. SATELLITE DATA WERE USED IN DETERMINING THE MOISTURE CONTENT OF A COLUMN OF THE ATMOSPHERE. COMPARISON OF SATELLITE AND RADIOSONDE MEASUREMENTS OF MOISTURE CONTENT IN A COLUMN OF THE ATMOSPHERE SHOWS A GOOD AGREEMENT. DETECTION OF CLOUD COVER AND PRECIPITATION OVER THE OCEANS WAS BY MEASUREMENTS AT WAVELENGTHS 0.8 AND 3.4 CM. AT LEAST TEN GRADATIONS OF THE INTENSITY OF HYDROMETEORS WITH A WATER CONTENT FROM 0.03 TO 0.3 G-CM PRIME2 WERE DISTINGUISHABLE.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--FREQUENCY SPECTRA OF INTENSITY FLUCTUATIONS OF SPHERICAL WAVES
PROPAGATED IN THE ATMOSPHERE -U-
AUTHOR-(02)-GURVICH, A.S., TIME, N.S.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, NO. 4, 1970, PP 812-815

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--ATMOSPHERIC TURBULENCE, SPECTRUM, REFRACTIVE INDEX,
AUTOCORRELATION FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605041/E02 STEP NO--UR/0109/70/000/004/0812/0815

CIRC ACCESSION NO--APC142747

UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0142747

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FLUCTUATIONS DISCUSSED IN THIS SHORT COMMUNICATION ARE THOSE CAUSED BY THE MOVEMENT OF TURBULENT HETEROGENEOUS INDICES OF REFRACTION BY THE WIND. FOR A PLANE WAVE, THE FREQUENCY SPECTRUM AND CORRELATION FUNCTION OF FLUCTUATIONS IN THE LOGARITHM OF THE ILLUMINATION CAN BE COMPUTED ON THE BASIS OF SPATIAL CORRELATION FUNCTIONS IN COMBINATION WITH THE HYPOTHESIS OF "FROZEN TURBULENCE". FOR SPHERICAL WAVES IN A TURBULENT ATMOSPHERE, HOWEVER, THE FROZEN HYPOTHESIS CANNOT BE APPLIED TO THE ILLUMINATION FIELD, AND THE SPATIAL CORRELATION FUNCTION OF THE SPHERICAL WAVE AMPLITUDE CANNOT THEREFORE BE USED FOR COMPUTING THE FREQUENCY SPECTRA. USE OF THE "FROZEN TURBULENCE" FOR THE REFRACTION INDEX FIELD MAKES POSSIBLE THE COMPUTATION OF THE AUTOCORRELATION FUNCTION AND THE FREQUENCY SPECTRUM OF THE FLUCTUATIONS IN THE LOGARITHM OF SPHERICAL WAVE INTENSITIES. IN COMPUTING THE AUTOCORRELATION FUNCTION, THE LIGHT IS ASSUMED TO BE A POINT SOURCE AT THE COORDINATE ORIGIN. CURVES ARE GIVEN FOR THE AUTOCORRELATION FUNCTIONS FOR PLANE AND SPHERICAL WAVES, AND FOR THE FREQUENCY SPECTRA OF BOTH WAVES FOR KOLMOGOROV TURBULENCE SPECTRA. THE AUTHORS ALSO DESCRIBE EXPERIMENTAL CHECKS THEY MADE OF THE THEORETICALLY OBTAINED RESULTS, USING A HELIUM NEON LASER AS THE LIGHT SOURCE OPERATING IN THE WAVELENGTH OF 0.63 MICRONS AND PRODUCING SPHERICAL WAVES. CURVES OF THE EXPERIMENTAL AND COMPUTED SPECTRA SHOW A FAIRLY CLOSE CORRELATION.

UNCLASSIFIED

Acc. Nr.: AT0042698

Ref. Code: UBOI

JPRS 5.

Dispersion of "Strong" Fluctuations of Laser Beam Intensity

(Abstract: "Measurements of the Dispersion of 'Strong' Fluctuations in the Intensity of Laser Radiation in the Atmosphere," by M. Ye. Gracheva, A. S. ~~Gurvich~~ and M. A. Kallistratova, Institute of Physics of the Atmosphere; Gor'kiy, Izvestiya Vysshikh Uchebnykh Zavedeniy, Radiofizika, Vol XIII, No 1, 1970, pp 56-60)

This paper gives the results of measurements of the mean square values of "strong" fluctuations of the logarithm of intensity of plane and spherical light waves propagating on horizontal paths 250 and 1,750 m long for high values of the structural constant of fluctuations of the atmospheric refractive index C_n ($C_n \approx 1.5 \cdot 10^{-7} \text{cm}^{-1/3}$). The light source was a gas laser ($\lambda = 0.63 \mu$), operating in a regime of axial oscillations with a high-quality collimator (D of aperture = 50 cm). A point detector was used. A study was made of the dependence $\sigma_I = f(2\sigma_0)$, where σ_0 is the mean square value of fluctuations of the logarithm of wave amplitude, computed by the smooth perturbations method. For plane and spherical waves, as well as for white light, there is a σ_I maximum when $\sigma_0 \sim 1$. With a further increase in σ_0 there is a slow decrease in σ_I . The maximum σ_I value for a spherical wave is greater than for a plane wave.

Reel/Frame

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Acc. Nr.:

AT0042697Ref. Code: UR0141

JPRS 50142

Amplitude of Light Wave During Propagation in Turbulent Atmosphere

(Abstract: "Measurements of the Mean Level of the Amplitude of a Light Wave During Propagation in a Turbulent Atmosphere," by M. Ye. Gracheva, ~~A. S. Gurvich~~ and M. A. Kallistratova, Institute of Physics of the Atmosphere; Gor'kiy, Izvestiya Vysshikh Uchebnykh Zavedeniy, Radiofizika, Vol XIII, No 1, 1970, pp 50-55)

The authors describe the method and present the results of measurements of the mean logarithm of the amplitude $\langle X \rangle$ of a plane light wave propagating on horizontal paths 250 and 1,750 m in length in the surface layer of the atmosphere. The light beam from a helium-neon gas laser ($\lambda = 0.63\mu$) was broadened by a high-quality collimator to a diameter of 50 cm. It was demonstrated that with the method used the effect of atmospheric absorption on the measured $\langle X \rangle$ value is eliminated. The authors determined the dependence of $\langle X \rangle$ on the parameter σ_0 , representing the dispersion of the fluctuations of the logarithm of wave amplitude, computed by the smooth perturbations method, as well as the dependence of $\langle X \rangle$ on the simultaneously measured dispersion of fluctuations of the logarithm of amplitude

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$$\sigma_{\chi}^2 = \langle (\chi - \langle \chi \rangle)^2 \rangle.$$

These data show that the expression $\langle \chi \rangle = -\sigma_{\chi}^2$, found theoretically for the region of "weak" fluctuations, that is, for $\sigma_0 < 1$, remains correct for "strong" fluctuations as well. There is a contradiction between the presented data and the hypothesis of a Rayleigh distribution of amplitude fluctuations in the region $\sigma_0 \gg 1$.

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1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--USE OF INJECTORS FOR IMMUNIZATION AGAINST SMALLPOX. COMMUNICATION
II: IMMUNOLOGIC RESPONSE TO INTRADERMAL INOCULATION OF SMALLPOX VACCINE
AUTHOR--(05)--AKATOVASHELUKHINA, E.M., FEDOROV, V.V., CHIMISHKYAN, K.L.,
GURVICH, E.B., NEKRASOV, I.L.
COUNTRY OF INFO--USSR

SOURCE--VOПРОSY ВИРУСОЛОГИИ, 1970, NR 3, PP 313-316

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SMALLPOX, IMMUNIZATION, ANTIBODY, VACCINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/1845

STEP NG--UR/0402/70/000/003/0313/0316

CIRC ACCESSION NO--AP0125456

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125456

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER PRESENTS THE RESULTS OF USE OF JET INJECTORS FOR IMMUNIZATION AGAINST SMALLPOX EXPERIMENTALLY IN ANIMALS AND IN A SMALL GROUP OF VOLUNTEERS. IMMUNOLOGIC RESPONSE WAS STUDIED BY DETERMINATION OF HUMORAL ANTIBODY IN THE BLOODS OF VACCINATED PEOPLE AND ANIMALS. AUTOMATIC MULTIDOSE INJECTORS OF NATIONAL AND AMERICAN MAKE WERE USED FOR IMMUNIZATION. THE METHOD OF INOCULATION WAS FOUND TO BE SAFE AND TO PRODUCE ANTIBODY RESPONSE IN SERA OF IMMUNIZED ANIMALS. IMMUNIZATION WITH JET INJECTOR PROTECTED RABBITS FROM DEATH AFTER INTRACEREBRAL INJECTION OF 1000 LD SUB50 OF NEUROVACCINE. A SIGNIFICANT RISE OF TITERS OF ANTIHEMAGGLUTININS AND VIRUS NEUTRALIZING ANTIBODY WAS DEMONSTRATED IN SERA OF VACCINATED HUMAN VOLUNTEERS. FACILITY: MOSKOVSKIY NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT VIRUSNYKH PREPARATOV.

UNCLASSIFIED

USSR

UDC 612.017.1

ZDRODOVSKIY, P. F., GURVICH, G. A.

Fiziologicheskiye osnovy immunogeneza i yego regulyatsiya (Physiological Principles of Immunogenesis and Its Regulation), Moscow, Meditsina, 1972, 88 pp

Abstract

The book presents the most important data of world literature and in particular the findings of many years of research by the authors on the problem of immunogenesis and its regulation as reflected in the formation of protective antibodies. The authors view the protective-immunological processes as a complex of biological reactions in the whole organism that are dependent on general physiological patterns. In particular these patterns are unquestionably associated with specific changes (increases) in the reactivity of immune cells of lymphatic tissue. In turn the aforementioned predetermines the disclosure of the patterns of increased and decreased immunological activity of an organism in the production of antibodies, a point which is exhaustively examined in the book together with the effect of applying these patterns in the production of horse serum. Also presented is an experimental substantiation of the neuro-humoral regulation of immunogenesis as reflected in the formation of antibodies. The book also presents new data concerning the unquestionable dependence of immunogenesis on the hypothalamus.

In very condensed form the present work presents and experimentally substantiates the physiological principles of immunogenesis including the

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ZDRODOVSKIY, P. F., GURVICH, G. A., Meditsina, 1972, 88 pp

neuro-hormonal regulation of immunogenesis. Key points of this concept that have been presented in journal articles and monographs are summarized beginning with the year 1937.

The idea of the necessary integration of immunological patterns with general physiological patterns was first formulated back in 1937 in an article entitled "The Time Factor in the Dynamics of Immunity and the Significance of Intervals Between Vaccinations" [P. F. Zdrodovskiy, Arkh. biol. nauk, Leningrad, Vol 68, 1937]. In this article, after analyzing the periodic change of increase and decrease in immunological reactivity of an organism following repeated antigen stimulation (a series of experiments conducted on guinea pigs by M. Roshkovskaya) -- a phenomenon ascertained by a laboratory of the AUIEM [All Union Institute of Experimental Medicine], we noted that these observations "while building a bridge between the patterns of immunology and general physiology" simultaneously indicate that "it will hardly be possible to discover patterns controlling immunogenetic phenomena in isolation from physiology" (p. 124).

Ultimately, on the basis of numerous immunological studies conducted under the direction of P. F. Zdrodovskiy associates of the epidemiological sector of the AUIEM (1934-1938) and later associates of the division of

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ZDRODOVSKIY, P. F., GURVICH, G. A., Meditsina, 1972, 88 pp

experimental pathology and immunology of infection of the Institute of Experimental Medicine of the USSR Academy of Medical Sciences (1945-1948) formulated the fundamental proposition that notwithstanding their own unique features, immunogenesis and antibody formation in the whole organism are subordinate to general physiological stimulation-inhibition and summational patterns discovered for the nervous system by I. M. Sechenov, N. Ye. Vvedenskiy and I. P. Pavlov and simultaneously recognized as having general biological significance (N. Ye. Vvedenskiy, 1901; I. P. Razenkov, et al., (1934-1937))

In addition to Selye's teaching on stress and the neuro-hormonal regulation of protective and adaptive processes, in 1956 we formulated the second basic proposition which was as follows: "Evidently the regulation of antibody production like the regulation of protective reactions in general are performed in the organism by the hypothalamo-hypophyso-adrenocortical system which plays a universal homeostatic role vis-a-vis Claude Bernard's 'internal medium'" [P. F. Zdrodovskiy, "The Current State of Theoretical Immunology and Its Immediate Tasks," Vestnik AMN SSSR, 1956, 3, 48; P. F. Zdrodovskiy, "Problems of Infectious Pathology and Immunogenesis," Vestnik AMN SSSR, 1958, 1, 24; P. F. Zdrodovskiy, "Concerning the Adaptive and Protective Mechanisms

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USSR

ZDRODOVSKIY, P. F., GURVICH, G. A., Meditsina, 1972, 83 pp

of the Organism," Vestnik AN SSSR, 1960, 2, 13], which was subsequently confirmed (1960) in experiments on rats by G. A. Gurvich [P. F. Zdrodovskiy, "Cellular Bases and Neuro-Hormonal Regulation of Immunogenesis. Paper Presented at a Conference of the Institute of Experimental Medicine of the Academy of Medical Sciences in May 1960. ZhNEI, 1961, 1, 3]

Based on the aforementioned experiments of G. A. Gurvich (1960), as a "working hypothesis" the neuro-hormonal regulation of immunogenesis has acquired the validity of the theory of neuro-hormonal regulation of immunogenesis within the framework of the universal significance of the hypothalamo-hypophyso-adrenocortical system of homeostasis [P. F. Zdrodovskiy, "On the Physiological Aspects of Immunogenesis and Its Regulation," Vestnik AN SSSR, 1972, 12] in the most recent studies by G. A. Gurvich and Ye. A. Kabanova (1971/1972).

Thus the concepts of the physiology and regulation of immunogenesis that developed over a space of 35 years are concisely presented in the present book.

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ZDRODOVSKIY, P. F., GURVICH, G. A., Meditsina, 1972, 88 pp

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ZDRODOVSKIY, P. F., GURVICH, G. A., Meditsina, 1972, 88 pp

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USSR

UDC 613.693

GURVICH, G. I., Col Med Serv and Professor, and MARTELS, V. K., Captain Med Serv.

"Hyperventilation in Pilots During Flight"

Moscow, Voenno-Meditsinskiy Zhurnal, No 5, 1973, pp 64-66

Abstract: Pulmonary function tests performed on pilots during flights revealed a tremendous rise in respiratory effort yielding an average pulmonary ventilation of 17 L/min and an average respiratory rate of 20 breaths/min. In critical moments, pulmonary ventilation may reach 32 L/min (400% of the resting value) and respiratory rate 35 min. Alveolar CO₂ conc. falls to about 3.5% on the average and to below 3% in critical moments. On repeat flights with pulmonary function tests, the flight personnel are able to maintain alveolar CO₂ concentration at about 5%. Since the hypocapnia developing in flight may reach dangerous levels, it is urgently recommended to take appropriate measures, including testing the pilots for susceptibility to hypocapnia, applying methods for adaptation to hypocapnia, training pilots in how to suppress hyperventilation, and instructing flight and ground personnel in how to recognize disorders caused by hypocapnia and distinguish them from those caused by hypoxia. Inhalation of a gas mixture with an appropriately increased CO₂ conc. is recommended as the most reliable method of treating hypocapnia.

1/1

1/3 035 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--A NEEDLE BIBLIOGRAPHY -U-
AUTHOR-(02)-GURVICH, G.I., YEGOROV, V.A.
COUNTRY OF INFO--USSR
SOURCE--KOYUNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, P 95
DATE PUBLISHED-----70

SUBJECT AREA--BIOLOGICAL AND MEDICAL SCIENCES, BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--AEROMEDICINE, SPACE MEDICINE, BIBLIOGRAPHY, PERSONNEL SELECTION, PILOT TRAINING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REF/ID NAME--3006/0359 STEP NO--UR/0177/70/000/003/0025/0095
CIRC ACCESSION NO--W0134149
PAGE 01 OF 01

273 035

UNCLASSIFIED

PROCESSING DATE--2008070

CIRC ACCESSION NO--AP0134148

ABSTRACT/EXTRACT--(U) GR-01 ABSTRACT. AVIATION AND SPACE MEDICINE, BASED ON DIALECTICAL MATERIALISM AND MAKING USE OF THE ACHIEVEMENTS OF PHYSIOLOGY, PSYCHOLOGY, CLINICAL MEDICINE, HYGIENE, BIOLOGY, BIOCHEMISTRY AND CYBERNETICS, HAS GROWN INTO AN INDEPENDENT SCIENTIFIC DISCIPLINE. AS IN EVERY AREA OF KNOWLEDGE, IT NEEDS ITS OWN GUIDE BOOK. THE FLOW OF INFORMATION IS GROWING WITH EACH DAY. AT THE PRESENT TIME EVEN THE SPECIALIST STUDYING A RELATIVELY NARROW CIRCLE OF QUESTIONS DOES NOT ALWAYS HAVE THE POSSIBILITY OF FOLLOWING ALL THE PUBLICATIONS. THEREFORE THE PUBLICATION OF A BIBLIOGRAPHY COMPILED BY ONE OF THE MOST SENIOR AVIATION PHYSICIANS, PROFESSOR A. A. SERGEYEV, SHOULD BE WELCOMED. WHEREAS AT THE DAWN OF THE DEVELOPMENT OF AVIATION INDIVIDUALS STUDIED QUESTIONS OF THE INFLUENCE OF VARIOUS FACTORS OF FLIGHTS ON THE ORGANISM, OF SELECTION AND TRAINING, OF ASSURING THE VITAL ACTIVITY OF FLIGHT PERSONNEL OF MEDICAL OBSERVATION, OF ASSURING THE SAFETY OF FLIGHTS, TODAY THOSE PROBLEMS ARE BEING SOLVED BY A LARGE DETACHMENT OF SCIENTIFIC CO WORKERS AND PHYSICIANS. AN EVER GROWING NUMBER OF MONOGRAPHS, COLLECTIONS, JOURNAL ARTICLES, MATERIALS OF CONGRESSES, CONFERENCES AND SYMPOSIA ARE BEING PUBLISHED ON AVIATION AND SPACE MEDICINE. A GOOD HELP TO THE SPECIALISTS IS THE BIBLIOGRAPHY UNDER REVIEW, WHICH INCLUDES WORKS PUBLISHED IN THE RUSSIAN LANGUAGE FROM 1883 TO 1967, A TOTAL OF 5253 ITEMS. IN IT HAVE GONE WORKS DONE BY THE CLASSICISTS (I. M. SICHENOV, V. V. PASHUTIN, V. I. VOLCHER, L. A. ORBELI, AND I. P. PETROV) AND NUMEROUS INVESTIGATIONS OF RECENT YEARS.

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3/3 035 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--W0134148
ABSTRACT/EXTRACT--IN ESSENCE ALL QUESTIONS HAVING A RELATION TO THE GIVEN
SCIENCE HAVE FOUND THEIR PLACE IN THE BIBLIOGRAPHY.

UNCLASSIFIED

Acc. Nr.: AP0046783

Ref. Code: UR0113

USSR

UDC 621.43-233.13:621.822.004.62

TSOY, I. M., and GURVICH, I. B., Candidate of Technical Sciences, Gor'kiy Auto Plant

"Effect of Certain Technological Factors on Unevenness of Wear of Crankshaft Base Bearings"

Moscow, Avtomobil'naya Promyshlennost' (Motor Vehicle Industry), No 1, 1970, pp 36-38

Translation: An investigation was made of the effect of amount of error in the relative positions of adjacent parts and clearance differences on the unevenness of wear of crankshaft base bearings in the GAZ-51 and GAZ-69 engines. The initial tolerances were found for the nonalignment of bearing block bushings, main journal play and clearance difference in bearings. (1 table, 2 illustrations, 2 bibliographic ref.)

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REEL/FRAME
19790087

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USSR

UDC:539.12.173

ABDULLAYEV, R.S., GURVICH, L.G., ZAKHAROV, G.E., POLYAK, YU.V.
and SKRIPNIKOV, YU.S.

"Experimental Determination of Energy Release due to Radiation in Certain Construction Materials"

Tashkent, Sb. Dozimetriya i Radiats. Protsessy v Dozimetr. Sistemakh (Symposium on Dosimetry and Radiation Processes in Dosimetric Systems), 1972, pp 197-200 (from Referatsionny Zhurnal-Yadernyye Reaktory, 1973, Abstract No 3.50.78)

Translation: Investigation results are presented on static temperature distribution inside a sphere located in the radiation field of a reactor, specific heat release for various metals was determined. Calculation of specific heat release was based on the assumption of uniform and exponential distribution of heat release sources through the depth of the material. Measurement of temperature field inside the sphere provided data on absorption on gamma-radiation by lead. 1 illustration. 2 references.
1/1

USSR

UDC: 539.121.7+621.38

BESPALOVA, N. S. and GURVICH, L. G.

"Modeling Atomic Liberation from Crystal Surface Layers on the Electronic Computer"

Moscow, Doklady Akademii Nauk SSSR, vol. 202, No 4, 1972, pp 804-806

Abstract: This paper is concerned with the liberation of primary atoms from the surface of a solid undergoing radiational sputtering in a field of nuclear activity, a process which leads to the erosion of the surface. Computation of the liberation process and of the shift in the atoms caused by such liberation can be done on the electronic computer. For the purpose of estimating the possibilities of using the computer for solving the problem of radiation erosion, this paper considers a model of a space-centered cubic lattice with a volume of $5 \times 5 \times 4 \text{ a}^3$ containing 148 atoms. Modeling the liberation of an atom from the surface layers consists in solving the system of equations

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$$\begin{aligned} m \, dv_{\alpha i} / dt &= F_{\alpha i}(x_1, y_1, z_1, \dots, x_N, y_N, z_N), \\ dv_{\alpha i} / dt &= v_{\alpha i}; \alpha = x, y, z; N = 1, 148. \end{aligned}$$

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UDC: 539.121.7+621.38

BESPALOVA, N. S., et al, Doklady Akademii nauk SSSR, vol. 202,
No 4, 1972, pp 804-806

This system was solved on the BESM-2M computer by the method of finite differences. The stability of the model is estimated. The work was done at the Institute of Atomic Physics, Uzbek Academy of Sciences.

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1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CONFORMATIONAL ANALYSIS OF 4-CYCLOHEXENES USING HETERONUCLEAR
DOUBLE RESONANCE -U-
AUTHOR-(04)-ZEFIROV, N.S., SERGEYEV, N.M., CHEKULAYEVA, V.N., GURVICH,
L.G.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(2), 345-7
DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLOHEXENE, PROTON, NMR SPECTRUM, CHEMICAL SUBSTITUENT,
ORGANIC NITRO COMPOUND, BUTADIENE, NITRILE, ACRYLATE, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1081

STEP NO--UR/0020/70/190/002/0345/0047

CIRC ACCESSION NO--AT0124738

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124738

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM PROTON NMR SPECTRA OF CYCLOHEXENES WITH CHO, CO SUB2 ME, CN AND AC SUBSTITUENTS IT WAS CONCLUDED THAT 3,CYCLOHEXENE,1,CARBOXALDEHYDE HAS 70PERCENT CONFORMATION 1 (X EQUALS CHO), AND THAT THE CORRESPONDING CARBOMETHOXY COMPD. HAS 85PERCENT CONFORMATION 1 (X EQUALS CO SUB2 ME). KEEPING O SUB2 NCH:CHCN WITH BUTADIENE,1,1,4,4,D SUB4 IN THE PRESENCE OF HYDROQUINONE 3 DAYS GAVE 70PERCENT TRANS,1,NITRO,2,CYANO,4,CYCLOHEXENE, 3,3,5,6,D SUB4, M. 93-5DEGREES; THE ME TRANS,2,ACETYL,4,CYCLOHEXENE,1,CARBOXYLATE, 3,3,6,6,D SUB4, B SUB1 124-6DEGREES, M PRIME20 SUBD 1.4770 WAS PREPD. FROM THE DIENE AND ME ACETYLACRYLATE IN 15 HR AT 100DEGREES IN MEPh. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--INELASTIC AND ELASTIC ENERGY LOSSES DURING THE CHANNELING OF SLOW
ATOMS AND IONS -U-
AUTHOR-(CZ)-GURVICH, L.G., YURKULOV, U.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERC. TELA 1970, 12(5), 1427-30
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ION INTERACTION, ELASTIC SCATTERING, INELASTIC SCATTERING,
CRYSTAL PROPERTY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--300477375 STEP NO--08/0181/70/012/005/1427/1430
CIRC ACCESSION NO--AP0131462

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131462

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELASTIC AND INELASTIC ENERGY LOSSES WERE CONSIDERED OF SLOW IONS IN THE CHANNELS OF CRYST. MATERIALS.

IN DETR. OF INELASTIC LOSSES OF THE ENERGY OF CHANNEL LED IONS, IT IS ASSUMED THAT ELECTRONS OF INTERNAL SHELLS OF ATOMS OF THE HINDERING MEDIUM DO NOT CONTRIBUTE TO THE ENERGY LOSSES, THE NO. OF WHICH WAS FOUND BY USING THE THOMAS FERMI MODEL. AN EXPRESSION WAS OBTAINED FOR THE ENERGY AT WHICH ELASTIC AND INELASTIC LOSSES ARE EQUAL.
FACILITY: INST. YAD. FIZ., ULEGBEK, USSR.

UNCLASSIFIED

USSR

UDC 669.14.018.8:620.193

GURVICH, L. Ya. SHUBADEYEVA, L. I., All-Union Scientific Research Institute
of Aviation Materials, Moscow

"The Influence of Machining Upon the Corrosion Resistance of Stainless Steels"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 4, 1971, pp 23-37

Abstract: The article deals with the consideration, on the basis of production experience and laboratory research, of the influence of machining upon the corrosion resistance and passivation of stainless steels of the martensite class for example, 2Kh13, 3Kh13, EI 474, EI 961, Kh17N2, and 9Kh18. The complex properties of surface layers of stainless steels, caused by machining, may be very numerous, and in addition to structural transformations, defects, and internal stresses, account should be taken of the possibility of the formation of organometallic products in a reaction with the lubricant. 2 figures. 5 tables. 3 references.

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USSR

UDC 616-036.882-08-06:616-002-036.1

SOBOLEVA, V. I., TOLOVA, S. V., GURVICH, N. I., SIDORA, A. K., TRUBINA, I. Ye.,
and MUTUSKINA, Ye. A., Laboratory of Experimental Physiology for Reanimation,
Academy of Medical Sciences USSR, Moscow

"Characteristics of the Course of the Restoration Period in Animals Revived by
Extracorporeal Circulation After Clinical Death"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, Vol 14, No 5,
Sep/Oct 70, pp 24-27

Abstract: Forty-three adult dogs which had sustained clinical death from profuse hemorrhage for 7 to 12 min. were revived by use of extracorporeal artificial-circulation equipment. In nonanesthetized dogs, corneal reflexes were suppressed for only 10 min. after the onset of high-volume rate perfusion (not less than 100 mg/kg/min). The electrical activity of the cerebral cortex was reduced at first. For most anesthetized animals, revival could be accomplished even 12 min. after clinical death. It was concluded that artificial blood circulation equipment could be used to revive nonanesthetized dogs within 8 min. of clinical death from hemorrhage, in some cases even within 10 min. Anesthetized animals could be revived after 10 min. of clinical death, a fact which was attributed to moderate

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USSR

SOBOLEVA, V. I., et al, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, Vol 14, No 5, Sep/Oct 70, pp 24-27

hypothermia accompanying the anesthesia. The body temperature of the anesthetized dogs dropped to a mean of 35°C before bloodletting and to 31.9°C before artificial blood circulation was stopped. Hypoxia during the resuscitation period was much less pronounced in these dogs.

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Acc. Nr: **AP0044609**

Ref. Code: **UR0497**

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48,
Nr 1, PP 102-105

CHOLEGRAPHY IN COMBINATION WITH RELAXATION
DUODENOGRAPHY IN THE DIAGNOSIS OF DISEASES
OF THE HEPATOPANCREATODUODENAL ZONE

R. N. Gurvich, M. M. Salman

Summary

In order to improve the recognition of changes in the hepatopancreatoduodenal zone the authors recommend a combined technique (choleduodenography) of roentgenological investigation of the bile-excretory system and duodenum. The advantages of combined choleduodenography are — obtaining of more complete information of the state of the entire hepatopancreatoduodenal zone, shortening of the period of the patient's examination and reduction of the radiation exposure.

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1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--KINETICS OF THE REACTION OF N BUTYL N PRIME, N PRIME,
DIBUTYLHTIOUREA WITH OZONE -U-
AUTHOR-(04)-LIPKIN, A.M.; RAZUMOVSKIY, S.D.; GRINBERG, A.YE., GURVICH,
YA.A.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(1), 127-30
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL REACTION KINETICS, OZONE, CONDENSATION REACTION,
THIOUREA
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3004/1878 STEP NO--UR/0020/70/192/001/0127/0130
CIRC ACCESSION NO--AT0132140
UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
 CIRC ACCESSION NO--AT0132140
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA WERE PRESENTED FOR
 THE REACTION OF O SUB3 WITH TRIBUTYLTHIOUREA (I). THIS (BROWN OIL), N
 PRIME20 SUBD 1.5147, D PRIME20 0.965, WAS PREPD. BY CONDENSATION OF BUNH
 SUB2 AND BU SUB2 NH WITH CS SUB2 IN H SUB2 O IN THE COLD, FOLLOWED BY
 ELIMINATION OF H SUB2 S BY HEATING; BY HEATING NA BUTYLDITHIOCARBAMATE
 WITH BU SUB2 NH.HCL; OR BY REACTION BY BUNCO WITH BU SUB2 NH. THE TITLE
 REACTION WAS FOLLOWED SPECTROSCOPICALLY. THE RESULTS, SHOWN
 GRAPHICALLY, SUGGEST THAT THE PROTECTIVE ACTION OF I AS AN ANTIOXIDANT
 APPEAR STRONGER IN THE EARLY STAGES OF THE REACTION, DURING WHICH A
 VOLATILE PRODUCT IS FORMED, ALONG WITH TRIBUTYLUREA. EVIDENTLY THE
 REACTION SEQUENCE IS: I PLUS O SUB3 YIELDS BUNHCONBU SUB2 PLUS SO SUB2;
 FOLLOWED BY REACTION OF THIS WITH O TO FORM BUNCO AND OTHER
 (UNIDENTIFIED) PRODUCTS. THE 1ST STEP HAS A HIGH REACTION RATE, WHICH
 COULD NOT BE MEASURED DIRECTLY. FACILITY: INST. KHIM. FIZ.,
 MOSCOW, USSR.

UNCLASSIFIED

USSR

GURVICH, Ye. I., UROBUSHKIN, V. I.

"Method of Synthesis of Combination Circuit Tests"

Metody kontrolya i diagnoza slozhn. sistem i avtomatov [Methods of Testing and Diagnosis of Complex Systems and Automata -- Collection of Works], Kiev, 1972, pp 27-36 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V424)

Translation: A method is presented for construction of checking tests for combination circuits in which defects amounting to a constant at the input (or output) of one element are allowed. The authors state that the method allows tests which are near minimal to be produced.

1/1

D. Programming and Mathematical Machine Theory

USSR

GURVICH, Ye. I.

"Multivalued Modelling of Logic Circuits"

Avtomatiz. proyektir REA [Automation of Planning of Electronic Equipment -- Collection of Works], Moscow, 1973, pp 159-162 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V587)

Translation: Modelling is used in the stage of logical planning for analysis of circuits forming the basis of logic elements. The depth of the analysis is determined by the capabilities of the logic modelling system (LMS) used. In the simplest case, analysis is reduced to comparison of the output signals calculated by the LMS with the signals expected by the designers of the circuit under the input conditions. The next step is consideration of a time parameters of the circuit: Analysis of stability and determination of states. A method of k-valued modelling is studied, providing the user with detailed information on the behavior of the system.

1/1

USSR

UDC 8.74

GURVICH, Ye. T.

"Automata Games and Decentralized Control"

Moscow, Detsentralizovan. metody upr.--sbornik (Decentralized Control Methods --collection of works), 1972, pp 26-27 (from RZh-Matematika, No 1, Jan 73, abstract No 1V872)

Translation: The author considers games of automata of type L, D as a model of decentralized control. Such automata can sense only two signals -- "+1" and "-1", "reward" and "penalty": i. e., for these automata the control result can be only "good" or "bad". The purpose of their operation is to maximize the probability of a gain: i. e., the average gain. If the controlled quantity assumes more than two values, then these automata can be used in this case as well: if it is known that the controlled process takes on values from (A,B), then the value of the process $x \in (A,B)$ can be considered "good" with probability $\frac{x-B}{A-B}$, and "bad" with probability $\frac{A-x}{A-B}$.

1/1

USSR

GURVICH, Ye. T.

"Games of Automata and Decentralized Control"

Detsentralizovan. Metody upr. [Decentralized Methods of Control -- Collection of Works], Moscow, 1972, pp 26-27 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V872).

Translation: Games of automata of type L, D are studied as a model of decentralized control. These automata can receive only two signals "+1" and "-1" "reward" and "penalty," i.e., the result of control can be only "good" or "bad." The purpose of their functioning is maximization of the probability of a gain, i.e., the mean gain. If the controlled quantity takes on more than two values, it is still possible to use these automata: if we know that the controlled process takes on values from (A, B), the value of the process $x(A, B)$ can be considered "good" with probability $X-B/A-B$ and "bad" with probability $A-X/A-B$.

1/1

- 82 -

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--X RAY DETERMINATION OF IRON IN ROCKS -U-

AUTHOR--(03)-GURVICH, YU.M., PLOTNIKOV, R.I., POPOV, N.V.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB., 1970, 36, (3), 294-295

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--CHEMICAL ANALYSIS, ROCK, GEOCHEMISTRY, IRON, X RAY ANALYSIS,
SPECTROGRAPHIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3004/0906

STEP NO--UR/0032/70/036/003/0294/0295

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2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131492

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN X RAY RADIOMETRIC METHOD OF DETERMINING FE IN POWDER SAMPLES OBTAINED FROM ROCKS IS PROPOSED. WITHOUT ALLOWING FOR LOCAL VARIATIONS IN MACROSCOPIC ROCK COMPOSITION THE ERROR IS SIMILAR TO 10PERCENT. IF A CALIBRATION CURVE IS FIRST PLOTTED FOR EACH GEOLOGICAL SITE OR TYPE OF MATERIAL, THIS ERROR IS REDUCED BY A FACTOR OF 2. THE ERROR IS NO HIGHER THAN THAT ENCOUNTERED IN CONVENTIONAL X RAY METHODS BASED ON ABS. INTENSITIES.

UNCLASSIFIED

USSR

UDC 577.4

GURVITS, Ye. A.

"Method for Optimizing the Structure of Polysynchronous Automata Supplied With Transition Tables"

V sb. Avtomaty i upr. (Automata and Control -- Collection of Works), Moscow, "Nauka", 1972, pp 51-58 (from RZh-Matematika, No 11, Nov 72, Abstract No 11V329)

Translation: A polysynchronous automaton will function at any clock time only if there is some action on one of the synchronizing inputs. At this time transfers can occur not between all, but only between a portion of the internal states of the automaton. A method is proposed for synthesizing a polysynchronous automaton supplied with transition tables. The method is oriented on minimization of the number of internal states of the automaton and avoiding internal conflicts.

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USSR

UDC: 577.4

GURVITS, Ye. A.

"Method of Optimization of the Structure of Polysynchronous Automata Fixed by Transition Tables"

Avtomaty i Upr. [Automata and Control--Collection of Works], Moscow, Nauka Press, 1972, pp 51-58 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V329)

Translation: A polysynchronous automaton functions in each cycle moment only if there is an action applied to one of the synchronizing inputs. At this moment, transitions can occur not between all, but rather between only a portion of the internal states of the automaton. A method is suggested for synthesis of a polysynchronous automaton fixed by a transition table. The method is oriented toward minimization of the number of internal states of the automaton and elimination of internal competition.

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USSR

UDC 8.74

GUR'YANOV, A. I., MITROFANOV, YU. I.

"Simulation of Time-Sharing Computer Systems by Queueing System Networks"

V sb. Sistemn. modelirovaniye (Systems Simulation -- collection of works), vyp. 2, Novosibirsk, 1971, pp 97-109 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V627)

Translation: The possibility of simulating time-sharing computation systems by closed linear networks of queueing systems is analyzed. A study was made of the time-sharing systems in which a constant number of users work each of which can generate the next command from the control panel only after output of the results of execution of its preceding command to the panel. The commands of the users are interpreted as requests, and the commands entering into the composition of the time-sharing systems of the device are interpreted as queueing systems. The users together with the control panels are also considered as the queueing system with identical instruments. In this queueing system each instrument reflects one of the users, and the servicing of the request by the instrument reflects the output to the user panel of the results of execution of the current command, consideration by the user of these results and further actions and input by the user of the next command from the control panel. The models of two single-processor time-sharing systems are described: the CDSS and the hypothetical one. It is noted that when constructing

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USSR

GUR'YANOV, A. I., et al., Sistemy. modelirovaniye, vyp. 2, Novosibirsk, 1971, pp 97-109

the given models in the form of queuing system networks all the real distributions defining the time sharing systems, the users and the problems solved in the time-sharing system were approximated with respect to the first moments by the exponential distributions. A comparison of the results of an analytical simulation with the results of programmed simulation for which the actual distributions were used and with the results of gathering experimental data was made.

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- 74 -

AA0040674

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, $\frac{1}{70}$

241583 MULTI-LAYER PIPE WELDING was improved by forming a depression under the weld in the lower layer, which is finally straightened after completion of the welding process. This method is applicable to the pipe manufacture with longitudinal and helical welded joints.

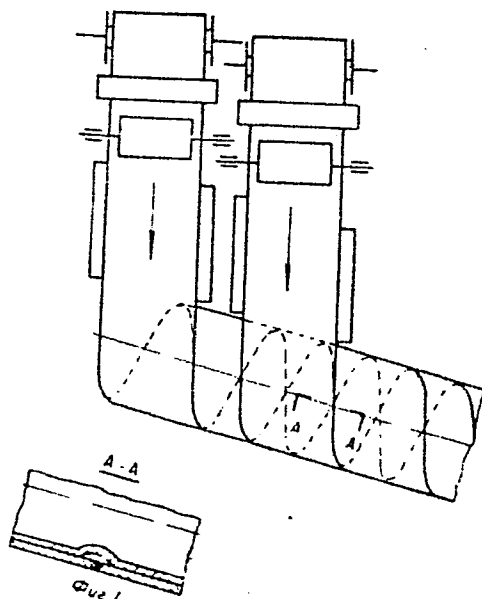
12.6.67 as 1163160/25-27. E.I. MIKLASHEV et alia.
URAL SECT. PRODUCTION & TECHNOLOGY RES.INST.(19.69)
Bul 14/18.4.69. Class 21h. Int.Cl.B 23k.

AUTHORS: Miklashevich, Ye. I.; Gur'yanov, G. F.; Ishmayev, O. N.;
Solomonidin, O. V.; Yachmenev, O. N.; Kokorev, P. A.;
and Voropayev, P. D. 18

Ural'skiy Filial Nauchno - Issledovatel'skogo Instituta

Tekhnologii i Organizatsii Proizvodstva

AA0040674



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USSR

UDC 539.3

GALIN'SH, A. K., GUR'YANOV, N. G.

"Effect of Local Loads on a Flat Transversally Isotropic Spherical Shell"

Sb. aspirantsk. rabot. Kazan. un-t. Teoriya plastin i obolochek (Collection of Aspirant Works. Kazan' University. Theory of Plates and Shells), 1971, No. 1, pp 158-167 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V155)

Translation: Equations taking into account deformations of a transverse shift are used. When the load is applied in the pole, the solution is obtained in terms of Thompson functions and a logarithmic function. The general form of integrals of homogeneous equations are represented in the form of an infinite series in terms of Thompson functions and trigonometric functions. A segment of a spherical shell acted on by a concentrated load applied at an arbitrary point is considered as an example. The particular solution in this case is also represented in the form of an infinite series in terms of Thompson functions and trigonometric functions. G. N. Chernyshev.

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- 99 -

USSR

UDC 621.382.3:01.201.007.4

GUR'YANOV, V.G.

"Concerning The Dependence Of The Collector Current In Integrated Circuit Transistors On The Collector Voltage When The Base Current Is Fixed"

Radiotekhnika i Elektronika, Moscow, Vol XVII, No 12, Dec 1972, pp 2245-2247

Abstract: In order to determine the nonlinear distortion in transistors resulting from nonlinearity of the current amplification factor and nonlinearity of the multiplication factor of the carriers, it is necessary to know the dependence of the collector current on the base (or emitter) current and the collector voltage. In the present note the exponent "n" in the relationship "n" (which are connected with the formula for i_c , the collector current) are experimentally determined. Formulas are derived by which it is possible to find for the integrated circuit transistor I.S. Kholodkovskiy et al. in the case with dielectric insulation, $n = 4$ (and not 3 as shown in another work [1]) and $k = 0.01$. 3 ref. Received by editors, 3 March 1972.

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AA0044796- .. Gur'yanov, V. G. UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

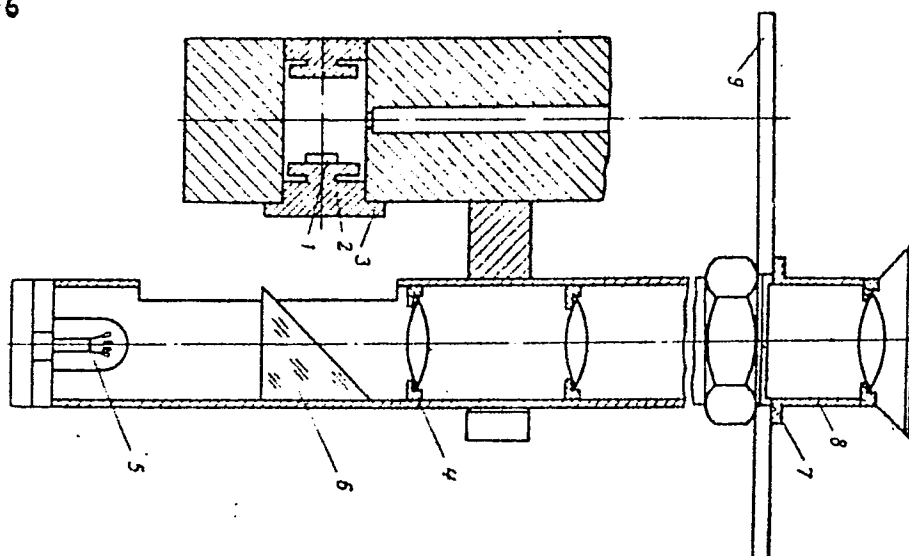
243211 MEASURING THE MAGNETIC SPECTRUM OF PARAMAGNETIC CRYSTALS with improved accuracy of

measurement uses the construction shown. The crystal 1 is mounted with adhesive to the piston 2 of a cylindrical resonator, rotated by any suitable mechanism round the horizontal axis. In a line with the cover of the piston, 3 is rigidly fixed an optical tube (for example, from a type RVP-463 surface frequency measuring device). By lamp 5 an image of the element 3 is reflected by mirror 6 through the optical system of 4 on to the object glass 7 of eyepiece 8. 3 and 7 are engraved with gratitudes. 7 is fastened to an angular measuring device, for example a ST-3 angle plate of a general-purpose microscope, having an error of not more than 15". By comparison of the gratitudes the true angle of rotation of 3 and 1 is measured. The crystal is orientated in the horizontal plane by rotating the whole apparatus, connected to a second goniometer, for which the angle plate ST-3 may also be used.

11.8.66 as 1097241/26-25.YU.K.GOLUB' et alia.
(15.9.69.) Bul 16/5.5.69. Class 42h.Int.Cl.A 01k.

19771623

AA0044796



AUTHORS: Golub', Yu. K.; Grigor'yev, N. I.; Gur'yanov, V. G.;

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Rogachev, V. S.

jc

19771624

USSR

UDC: 621.317.33

KROTKOV, I. N., KLEBANOV, M. Ya., GUR'YANOV, V. S., MCHELIDZE, G. V.

"Methods and Equipment for Precision Measurements of the Parameters of Resistors on Alternating Current"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 33-37 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A359)

Translation: The paper discusses briefly the problems which arise in precision measurements of the parameters of resistors on alternating current: "absolute" reproduction of the unit dimension of resistance (the ohm), retention and transmission of the unit dimension on alternating current, and determination of the residual parameters of resistors. It is pointed out that it would be advisable to develop a set of equipment for measuring the parameters of resistors with fairly high precision over a wide range of frequencies and resistances. Bibliography of 7 titles. E. L.

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USSR

UDC 661.183.123

PLACHENOV, T. G., GUR'YANOV, V. V., SEVRYUGOV, L. B., and MUSAKIN, G. A.

"Porous Structure and Molecular-Sieve Properties of Activated Hydrocarbon Adsorbents From Industrial Furyl Resin FL-2

Leningrad, Zhurnal Prikladnoy Khimii, Vol 44, No 11, Nov 71, pp 2498-2503

Abstract: Conditions prevailing during activation of carbon obtained by carbonization of thermosetting furyl resin, using optimal quantity of an acid catalyst, were studied in respect to their effect on the porous structure and adsorptive properties of the material. Carbon activation was performed by CO₂ in a stationary phase at temperatures of 700-850°. It has been shown that such activation up to 40% charring leads to development of microporous structure only, producing adsorbents with high dynamic activity towards benzene vapors. Lowering the activation temperature results in a more uniform development of the microporous structure due to predominant opening of the pore volumes of the molecular dimensions of the starting charcoal. Hydrocarbon adsorbents activated with CO₂ to low charring at temperatures up to 800° show highly selective molecular sieve properties.

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UDC 547.26'118

USSR

PUDOVIK, A. N., GUR'YANOVA, I. V., and KAKURINA, V. P.

"Reaction of Diethylphosphorus Acid Monoisocyanate With Ethyl Pyruvate"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1976-1978

Abstract: In furthering research on reactions of trivalent phosphoric acid derivatives with carbonyl compounds activated by electron acceptor substituents, a study was made of the reaction of diethylphosphorus acid monoisocyanate with ethyl pyruvate. The reaction product is 2-ethoxy-2-oxo-2-ethyl-5-methyl-5-carboethoxy-2-phosphaoxazolin-4-one. The new compound is a very viscous liquid which can be distilled under vacuum without being decomposed and can be dissolved in organic solvents. On prolonged storage, the product gradually thickens and turns into a glassy insoluble mass. The initial reaction yields optimum results at low temperatures and a 1:1 ratio of reagents in methylene chloride solution.

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USSR

UDC 547.26'118

PUDOVIK, A. N., GUR'YANOVA, I. V., BURNAYEVA, L. A., and KARIMULLINA, E. Kh.

"Réaction of Glycolophosphate Esters and Glycolophosphoramides With α -Ketocarboxylate Esters"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1978-1980

Abstract: It is shown that pyruvate esters and glyoxylates treated with glycolophosphorates and glycolophosphamides form spiro-1,3,2-dioxaphospholanes. The relatively low yield of the new product (50-65%) is attributed to the formation of oxidation products, i.e. cyclic phosphates. Spiro-1,3,2-dioxaphospholanes are dense liquids which are soluble in organic solvents. Yields, boiling and melting points and formulas of the new compounds are given.

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USSR

UDC 547.26'118

PUDOVIK, A. N., GUR'YANOVA, I. V., and RAKIBATULLINA, L. Kh., Kazan' State University imeni Ul'yanov-Lenin

"Reactions of Dialkyl Anilidophosphites with Esters of Pyruvic and Glyoxylic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1435-1439

Abstract: The authors studied reactions of the methyl, ethyl, butyl esters of pyruvic acid and the butyl ester of glyoxylic acid with diethyl and dibutyl anilidophosphites and diethyl-p-anisidino- and diethyl-p-toluidinophosphites at -5° and $+100^{\circ}$ with an equimolecular reagent ratio or with an excess of the carbonyl compound. It was found that, regardless of the reaction temperature or the reagent ratio, the reactions give O, O-dialkyl-O- α -carboalkoxyalkyl-N-phenylimidophosphates.

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USSR

UDC: 547.26'118

PUDOVIK, A. N., GUR'YANOVA, I. V., KAKURINA, V. P., GOL'DFARB, E. M., Kazan'
State Institute imeni V. I. Ul'yanov-Lenin

"On the Reaction of Dialkylchlorophosphites With Pyrrolidic Acid Esters"

Leningrad, Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, pp 2374-2376

Abstract: The authors study reactions of methyl and ethyl pyrrolidates with diethyl- and dibutylchlorophosphates. Various proportions of the reagents were reacted at temperatures ranging from 0 to 100°C. The reaction is most complete when the reagents are taken in an equimolecular ratio and reacted with moderate heating or allowed to stand at room temperature for a considerable length of time. Colorless viscous liquids are formed with quantitative release of alkyl chlorides. Elementary analysis and the molecular weight of the resultant products indicate that two molecules of pyrrolidate and two molecules of dialkylchlorophosphite participate in the synthesis. Two molecules of alkyl chloride are given off during the reaction. On the basis of these considerations, it is concluded that the reactions produce cyclic phosphonates -- 3,6-dimethyl-3,6-dicarbalkoxy-1,4-dialkoxy-2,5-dioxo-1,4-diphosphorinanes. Formation of intermediate products was investigated by studying the P^{31} NMR spectra.

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UDC 547.241

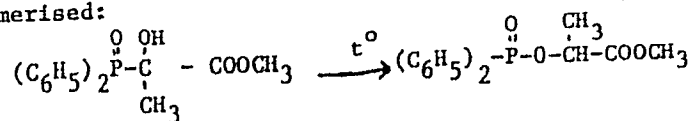
USSR

PUDOVIK, A. N., GUR'YANOVA, I. V., ROMANOV, G. V., and LAPIN, A. A., Kazan'
State University imeni V. I. Ul'yanov-Lenin

"Reaction of Diphenylphosphine With Methyl Ester of Pyruvic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 3, Mar 71, pp 709-710

Abstract: Diphenylphosphine was added dropwise to an excess of methyl pyruvate, the mixture heated to 45-50°, and then cooled. After several days crystals appeared and were recrystallized from hexane to give (α-hydroxy-α-carbomethoxy)-ethyldiphenylphosphine, m.p. 126-128°. In the temperature range 129-148 the production isomerised:



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Mechanical Properties

USSR

UDC 621.7.011

TRET'YAKOV, A. V., TROFIMOV, G. K., and GUR'YANOVA, M. K.

Mekhanicheskiye Svoystva Staley i Splavov pri Plasticheskom Deformirovanii. Spravochnik (Mechanical Properties of Steels and Alloys at Plastic Deformation. Handbook), Moscow, "Mashinostroyeniye," 1971, 63 pp.

Abstract: Data are presented on the variation of mechanical properties of steels and alloys in the presence of plastic deformation. Empirical formulas are given for determining nominal yield point, temporary strength, relative elongation, and hardness as a function of the degree of deformation for any kind of steel and alloy at room temperature.

Empirical formulas for deformation conditions at high temperatures, as well as tables of real strength variation with temperature and rate and degree of deformation are presented.

The handbook is intended for designers and industrial engineers at machine building and metallurgical plants. It may also be useful for scientific personnel, graduate students, and students of related specialties. 36 tables, 10 figures, and 18 references.

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USSR

TRET'YAKOV, A. V., et al., "Mashinostroyeniye," 1971, 63 pp

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USSR

TRET'YAKOV, A. V., et al., "Mashinostroyeniye," 1971, 63 pp

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USSR

TRET'YAKOV, A. V., et al., "Mashinostroyeniye," 1971, 63 pp

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- 33 -

1/2 018 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--KINETIC MODEL OF THE CATALYTIC OXIDATIVE DEHYDROGENATION OF N
BUTENES OF 1,3,BUTADIENE -U-
AUTHOR-(05)-BAKSHI, YU.M., SNAGOVSKIY, YU.S., GURYANOVA, R.N., GELBSHTEYN,
A.I., OSTROVSKIY, G.M.
COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 7-15

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPUTER, CALCULATION, CHEMICAL REACTION RATE, BUTENE,
BUTADIENE, CATALYTIC DEHYDROGENATION, ALGORITHM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/1887

STEP NO--UK/0204/70/010/001/0007/0015

CIRC ACCESSION NO--AP0112867

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112867

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A KINETIC MODEL FOR A COMPUTER PROGRAM WAS USED TO CALC. RATE CONSTS. WITH AN AV. RELATIVE ERROR IS SMALLER THAN OR EQUAL TO 20PERCENT (20-30PERCENT FOR O-CONTG. BY PRODUCTS) FOR N BUTENE CONVERSION TO H SUB2 C:CHCH:CH SUB2 (I) DURING OXIDATIVE DEHYDROGENATION AT 425-70DEGREES OF A BUTENE FRACTION (29.6PERCENT 1, 22.6PERCENT CIS,2, AND 31.6PERCENT TRANS,2,BUTENE,3.12PERCENT H SUB2 C:CME SUB2, 2.3PERCENT 1, AND 10.7PERCENT OTHER C SUB2-4 HYDROCARBONS) ON AN UNSUPPORTED, PROMOTED 1:1 BI-MO CATALYST. AT 470DEGREES WITH A FEED MIXT. CONTG. C SUB4 H SUB8, O, N, AND H SUB2 O IN A RATIO OF 1:1.8:18.5:3.9, WITH CONTACT TIME 8.2 SEC, CONVERSION AND SELECTIVITY WITH RESPECT TO I WERE CALCD. TO BE 75 AND 72PERCENT AND WERE FOUND EXPTL. TO BE 75 AND 68PERCENT, RESP. CONSTS ENTERING INTO THE RATE EQUATIONS WERE DETD. WITH THE USE OF A STEEPEST DESCENT ALGORITHM METHOD FOR FINDING THE MIN. OF A FUNCTION OF IN A AND E VALUES OF THE ARRHENIUS EQUATIONS. FACILITY: NAUCH. ISSLED, FIZ. KHIM. INST. IM. KARPUVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr.

AP0045180

Abstracting Service:
CHEMICAL ABST.

5-70

Ref. Code

UR0191

91089m Stabilization of formaldehyde homo- and copolymers. Gur'anova, V. V.; Kovarskaya, B. M.; Kotrelev, M. V.; Akutin, M. S. (USSR). *Plast. Massy* 1970, (1), 46-7 (Russ). Polyformaldehyde (I) (with blocked terminal groups) and dioxolane-trioxane copolymer (II) were subjected to oxidative thermal degradation in the presence of various stabilizers. The degradation of I was inhibited by TiO_2 (rutile), presumably due to the formation of a more dense supramol. structure inhibiting the diffusion of O into I. The degradation of II was most effectively inhibited by a ternary compn. consisting of an antioxidant 22-46 [2,2'-methylenebis(4-methyl-6-tert-butylphenol)], $\text{H}_2\text{NC}(\text{NH})\text{NHCN}$, and TiO_2 . CKJR

REEL/FRAME
19780080

USSR

UDC 541.67:547.241

ROMM, I. P., ROZANEL'SKAYA, N. A., GUR'YANOVA, Ye. N., BOKANOV, A. I., and STEPANOV, B. I., Scientific Physical-Chemical Research Institute imeni L. Ya. Karpov and Moscow Chemical Technological Institute imeni D. I. Mendeleev

"Dipole Moments of Methyl Substituted Triphenylphosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1650-1651

Abstract: Dipole moments of tri-, hexa-, and nonamethyl substituted triphenylphosphines have been determined. All the results except for the nonamethyl homolog agreed with literature data. The trimesitylphosphine dipole was lower by 0.5 D than that of the triphenylphosphine. This indicates considerable change in the geometry of triphenylphosphine upon introduction of two methyl groups into the orthopositions of each ring.

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USSR

UDC 541.49:547.558 + 546.46

ROMM, I. P., SADYKOVA, E. M., GUR'YANOVA, Ye. N., and KOLLI, I. D., Scientific Physical-Chemical Research Institute Imeni L. Ya. Karpov and Moscow State University Imeni M. V. Lomonosov

"Study of the Phosphine Complexes With the III Group of Metal Halides and $p\pi$ Conjugation in Aromatic Phosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 4, Apr 73, pp 728-739

Abstract: Heat effects of the formation reactions of aromatic and aliphatic phosphine complexes with boron trifluoride and trichloride aluminum bromide and gallium trichloride and the dipole moments were determined in benzene at 25°. Symmetric changes were observed of the degree of charge transfer and heats of the formation of donor-acceptor complex bonds in a series of aliphatic phosphine complexes. The polarity and complex stability change in the order $\text{BF}_3 < \text{AlBr}_3 \approx \text{GaCl}_3$. The π integrals of the overlap of C-N and C-P bonds in aromatic amines and phosphines have been calculated. It has been shown that the hybrid sp orbital of the free pair of electrons at the phosphorus atom is capable of real $p\pi$ overlap. The $p\pi$ energies of conjugation in the molecules of dipropylphenylphosphine, ethyldiphenylphosphine, and triphenylphosphine have been determined by the method of complex formation.

171

UDC 541.572.5+541.572.8

USSR

ROMM, I. P., SADYKOVA, E. M., GUR'YANOVA, Ye. N., KOLLI, I. D., and KOCHESKOV, K. A., Academician, Physical Chemistry Institute imeni L. Ya. Karpov, Moscow, and Moscow State University imeni M. V. Lomonosov, Moscow

" p π -Conjugation in Triphenylphosphine"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 2, 1970, pp 372-375

Abstract: The p π -conjugation (interaction of the undivided electron pair at P with the π -electrons of the aromatic system) of Ph_3P was studied on the basis of the dipole moments (d. m.) of complexes $\text{R}_3\text{P}.\text{MX}_3$ (R = Bu, hexyl, octyl, Ph) of phosphines, which are active n-donors, with a number of acceptors ($\text{MX}_3 = \text{AlBr}_3, \text{GaCl}_3, \text{BCl}_3$) and of the heats of formation of $\text{R}_3\text{P}.\text{MX}_3$ ($\text{MX}_3 = \text{AlBr}_3, \text{GaCl}_3$). The thermal effects involved in the substitution of R_3P with dimethylcyclohexylamine in $\text{R}_3\text{P}.\text{BF}_3$ (R = Bu, hexyl, Ph) and of Ph_3P with Bu_3P in $\text{Ph}_3\text{P}.\text{BCl}_3$ were also considered. The d. m. of complexes $\text{Alkyl}_3\text{P}.\text{AlBr}_3$ were close to each other, but the heat of formation of the second was much lower than that of the first because of energy losses associated with breaking of the p π -conjugation in R_3P during complex-formation. On the basis of this difference and similar differences for complexes with other

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USSR

ROMM, I. P., et al, Doklady Akademii Nauk SSSR, Vol 195, No 2, 1970, pp 372-375

acceptors (those for complexes with BF_3 and BCl_3 were calculated from the thermal effects in the substitution reactions), the p π -conjugation energy E_c in Ph_3P was estimated at 11.7 ± 2 kcal/mole as an average of values based on data for complexes with the four acceptors MX_3 . E_c for Ph_3P was lower than that for N-methyldiphenylamine ($E_c = 14.9$ kcal/mole) and much lower than that for Ph_3N .

2/2

- 56 -

Acc. Nr:

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Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code:

4R0039

104671x Thermodynamics of reactions for the formation of $A + D \rightarrow A.D$ -type molecular compounds. Gol'dshtein, I. P.; Gur'yanova, E. N.; Shcherbakova, E. S. (USSR). *Zh. obsch. khim.* 1970, 40(1), 183-91 (Russ). The thermodynamic parameters of ΔH , ΔS , and ΔG were detd. for the series of complexes formed by $SnCl_4$, $SnBr_4$, $TiBr_4$, and $GaCl_3$ with such substances as $MeCN$, $(CH_3OBU)_2$, $(CH_3CH_2OEt)_2$, $(CH_3SBu)_2$, $CH_3(CH_2SBu)_2$, $(CH_3CH_2SBu)_2$, $PhCN$, CH_3CHCN , $EtCN$, Bu_2O , $(C_4H_9)_2O$, Pr_2S , Bu_2S , $(C_7H_{15})_2S$, and Et_3N , as well as a wide selection of aliphatic esters, sulfides, phosphines and ethers in their complexes with I_2 , BF_3 , BCl_3 , Me_3B ; also included were complexes formed by Ph_2SO , Et_3N , and pyridine with $PhOH$, *p*-methoxy and *m*-Me analogs, as well as isomeric Cl analogs and NO_2 analogs. A linear relation exists between enthalpy of such complex formation and the entropy value. In case of some 81 such complexes this relation is general for donor-acceptor complexes. The linear relation between ΔH and ΔS is based principally on change in the internal degrees of freedom in the process of complex formation. G. M. Kosolapoff

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REEL/FRAME
19800710

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1/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--NUCLEAR QUADRUPOLE RESONANCE NQR IN A STUDY OF MOLECULAR COMPOUNDS
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AUTHOR--(03)-NAKSYUTIN, YU.K., GURYANOVA, YE.N., SEMIN, G.K.
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 87 REFS. THROUGH 1968, COVERING THE GENERAL METHODS OF NQR SPECTROSCOPY, THE NATURE OF NQR SPECTRA IN COMPLEXES WITH CHARGE TRANSFER CHARACTERISTICS, COMPLEXES FORMED BY SUBSTANCES WITH DIFFERENT TYPES OF ELECTRON ACCEPTORS, AND THE H BONDED SUBSTANCES. FACILITY: INST. ELEMENTORG. SUEIN., MOSCOW, USSR.

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UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/1

241980 PULSED LIGHT SOURCE for high speed image photography comprises the discharger (1) with mutually angled control electrodes (2) (3) whose channels (4) converge in (5) in an insert (6). The tungsten pin (7) in the electrodes is provided, and blades (8) for lines. The rays pass out through the orifice (10) in the ring electrode (9). A control voltage imposed on the ring electrode at one of the controls produces discharge gap spark-over with accompanying emission of light. The next flash occurs after a set time lapse etc.

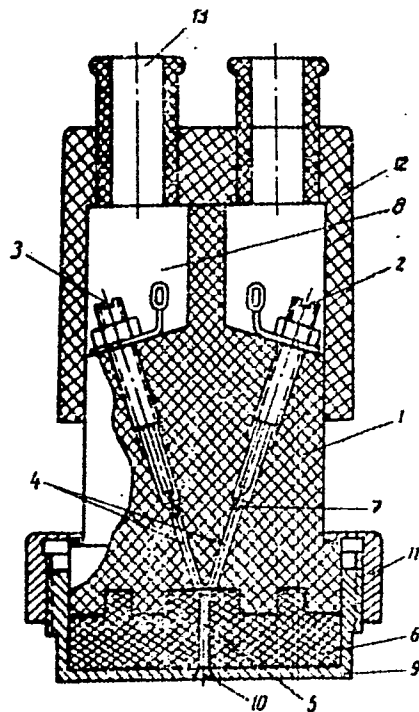
6.10.67 as 1191850/18-10. GUR'YASHKIN, L. P. & SUMENKOV, K. A. (10.9.69) Bul 14/18.4.69. Class 57c. Int.Cl.G 03 d.

21

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19761780

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USSR

UDC 539.389.4

GUR'YEV, A. V., VODOP'YANOV, V. I., Volgograd

"Influence of Preliminary Plastic Deformation on Nonelastic Properties of Metal"

Kiev, Problemy Prochnosti, No 5, May, 1971, pp 85-89.

Abstract: The dependence of the intensity of the appearance of nonelastic properties of steel, evaluated on the basis of the parameters of the elastic hysteresis loop, on the type of preliminary plastic deformation, performed by extension or torsion, is studied. The total dislocation deformation is found to be determined by the total dislocation deformation in shear in all slipping systems per unit volume, activated under preliminary plastic deformation conditions. If the loading is performed in the same direction during measurement of hysteresis loops as during preliminary plastic deformation, bending of the dislocation loops will occur in the previously active slipping systems. Otherwise, the number of previously active systems involved in bending will be decreased.

1/1

USSR

UDC 669.715'5'721+669.715'5'296]:534-8

DRITS, M. Ye., ROKHLIN, L. L., BOCHVAR, N. R., ~~GUR'YEV, I. I.~~, and
DZYUBENKO, M. I., All-Union Institute of Light Alloys

"Sound Conduction of Al+20% Zn Alloy With Additions of Magnesium and
Zirconium as a Function of Conditions of Heat and Pressure Treatment"

Tekhnol. legkikh splavov. Nauch.-tekhn. byul. VILSa (Technology of Light
Alloys. Scientific and Technical Bulletin of All-Union Institute of Light
Alloys), 1971, No 4, pp 9-13 (from RZh-Metallurgiya, No 1, Jan 72, Abstract
No 11727 by I. Yeroshenkova)

Translation: The authors studied the influence of homogenization, as well
as pressing temperature, annealing, and aging on the ultrasound attenuation
coefficient in alloys of Al 20% Zn and 0.1-0.3% Zr or 0.1-0.2% Mg. Optimum
conditions of heat and pressure treatment to assure lowest values of the
ultrasound attenuation coefficient in the alloys were determined: for
Al-Zn-Mg alloy homogenization of ingots at 500°, pressure treatment at
400°, annealing at 350° with subsequent cooling, resulting in no signifi-
cant decomposition of the solid solution of Al, and natural aging; for
Al-Zn-Zr alloy homogenization of ingots at 500° and pressure treatment at
450-500°. Four illustrations. Bibliography with four titles.

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